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ABSTRACT

These two studies explored variations in teachers' perceptions of dimensions of school culture reflecting norms of professionalism in three different school settings. The studies examined underlying dimensions of school culture associated with context factors in elementary, middle, and high schools. Researchers used the Revised School Culture Elements Questionnaire (RSCEQ), which examined actual and preferred features of school culture. In the first study, over 3,000 teachers in 80 urban schools completed the RSCEQ. In the second study, over 1,300 teachers completed the RSCEQ. Researchers analyzed the data from the two studies differently. Results indicated that the RSCEQ is useful in measuring multiple dimensions of school culture. The results show that multiple dimensions of school culture grounded in norms of professionalism can be identified and measured with reasonable reliability. The studies found somewhat dissimilar factor structures for the RSCEQ in the three different school levels and somewhat different operational definitions of these dimensions within school-level contexts. Two appendixes present RSCEQ items for study one and conceptual definitions and items operationalizing each RSCEQ dimension from factor analyses completed in study two. (Contains 32 references.) (SM)

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School Level Differences in Teachers' Perspectives of Multiple Dimensions of School Culture

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School Level Differences in Teachers' Perspectives of Multiple Dimensions of School Culture

The importance of formally assessing and understanding learning environment characteristics from students' collective perspectives was first noted by Anderson and Walberg in their evaluation of Harvard Project Physics in the late 1960s using the Learning Environment Inventory and the My Class Inventory (Fraser, Fisher, & McRobbie, 1996). This early work has been followed by the subsequent development of a variety of other learning environment measures such as the Classroom Environment Scale (CES), the Individualized Classroom Environment Questionnaire (ICEQ), The Science Laboratory Environment Inventory (SLEI), the Constructivist Learning Environment Survey (CLES), the College and University Classroom Environment Inventory (CUCEI), and the Questionnaire on Teacher Interaction (QTI) (Fraser, 1993).

In the past three decades, a large number of studies of learning environments concerned with theory development, measurement and unit of analysis issues, utilization of measurement results for curriculum development and program evaluation, and arranging more optimally functioning environments for students to monitor and improve schools have been completed (Fraser, 1986a; 1986b; Fraser & Walberg, 1991; McRobbie & Ellett, 1997). Past studies of learning environments have, for the most part, been completed at the classroom level, and typically these studies are derived from measures of students' collective perspectives of psycho social elements of the classroom (Fraser, 1986b). More recently, classroom level studies have been expanded to include measurements of students' individual (constructivist-based) perceptions (Fraser, Fisher, & McRobbie, 1996), actual versus preferred views of the classroom learning environment (Fraser, 1993; Hattie, Bryne, & Fraser, 1996), and a variety of mixed quantitative and qualitative methodologies (McRobbie & Ellett, 1997). Thus, a greater diversity

of methodologies and constructs has begun to appear in the literature, spanning a wide range of issues from appropriate methodologies (e.g. post positivist vs constructivist views), the use of multiple methodologies, appropriate units of analysis, the value addedness of mixed (quantitative/qualitative) methodologies, and preferred versus actual perceptions of students. Syntheses of studies of students' perceptions of the learning environment have also identified these perceptions as making important contributions to student learning (Wang, Haertel, & Walberg, 1993), and student perceptions have also been included as important elements in the development of models of educational productivity (Walberg, 1984).

During the past few years, studies at the school level have developed or adapted/adopted important measures that examine school level environment, organizational and cultural variables from both teacher and administrator perspectives. These studies include measures of school organizational coupling structure (Logan, 1990), bureaucratic and professional role orientations (Chauvin, 1992), decision deprivation and work alienation (Johnson, 1991), supervisory climate (Claudet, 1993), professional learning environment and individual, collective and organizational efficacies (Loup, 1994), receptivity and resistance to change, (Chauvin, 1992; Loup, 1994; Clarke, 1997), and recently, elements of school culture (Cavanagh, 1997). These studies have also focused on establishing linkages between these school level environment and organizational variables and various indices of school and organizational effectiveness (Clarke, 1997; Ellett, Logan, Claudet, Loup, Chauvin, & Johnson, 1997).

Previous studies of learning environments have also shown that learning environment perceptions can differentiate between a variety of subject matter areas, grade levels, and classroom groups (Ellett, 1986) and between school-level climate characteristics. A few studies

have also analyzed relationships between teacher behaviors and characteristics of the psycho social learning environment (Ellett, Capie, and Johnson, 1980; Ellett, Loup, & Chauvin, 1991; Johnson, 1991; Loup, Ellett, Chauvin, Lofton, Hill, & Evans, 1993). Studies of learning environments have as well, often compared teachers' and students' perceptions of actual and preferred characteristics of learning environments (Fraser, 1993).

The diversity of approaches to studying educational learning environments is providing rich and new understandings. Included in this diversity are recent calls for the development of measures of school-level rather than class level environments (Ellett, et al., 1997) and studies in higher education settings as well (Clarke, 1997; Ellett, Loup, Culross, McMullen, & Rugutt, 1997). There is a move to use personal forms along with class forms (Fraser, Fisher, & McRobbie, 1996) in which students are asked for their personal perceptions of their role in the environment of the classroom rather than their perception of the learning environment in the class as a whole. Recent studies have also included multi cultural learning environments and the influence of culture on the learning environment (Cavanagh & Dellar, 1997), and learning environment factors have been included in models developed to understand educational productivity (Giddings and Waldrip, 1997).

The movement from student level analyses to a core focus on teachers' perceptions of both actual and preferred learning environments addresses important issues including teachers as learners, and the school as a professional learning community. Recent research generated by this focus includes Cavanagh's (1997) initial probe of school level culture through the School Culture Elements Questionnaire (SCEQ) in which elements of school culture are measured through teacher and administrator perceptions. A recent study utilized an adapted version of the

SCEQ to compare teacher and administrator perceptions of actual and preferred school culture in a small rural school district in the U.S. (Olivier, Bobbett, Ellett & Rugutt, 1998). Although the results from this study were promising, the sample size was rather small and homogeneous, thus indicating the need for expanded research in larger, more diverse school contexts

Conceptual Framework

The conceptual framework guiding this study views the school as a complex social system embedded within a larger culture which frames learning environment opportunities for teachers and other professionals. School culture emanates from interpersonal interactions between individual teachers, groups of teachers, administrators and others, and common perceptions and shared meanings among these groups reflecting collective beliefs, attitudes and values of school personnel (Cavanagh, 1997). Thus, school culture reflects the norms, beliefs, values, symbols and rituals shared among administrators, teachers and others that frame a sense of *who we are and what we do around here*. Loup (1994) successfully used elements of this framework in the development and validation of a measure of the professional learning environment of schools that included a measure of core beliefs, expectations and values among teachers in which professional learning opportunities are embedded.

The two studies reported here advance the previous work of Cavanagh (1997), by extending the development of school level measures of elements of school culture by comparing teachers' perceptions of elements of school culture embedded within demonstrably different work environment contexts (i.e., elementary, middle, and high school settings). It is responsive as well to recent calls to change the context of research on learning environments to a school culture and learning community perspective (Dellar, Cavanagh, & Ellett, 1998).

Purpose

The purpose of the two studies reported here was to explore variations in teachers' perceptions of dimensions of school culture reflecting norms of professionalism in three different school settings. Of particular interest was the identification of underlying dimensions of school culture associated with school context factors in elementary, middle and secondary schools. More specifically, the objectives were threefold: (a) to expand and explore the structure of a newly developed measure of multiple dimensions of school culture; (b) to report findings from two studies that compared elementary, middle, and high school teachers' perceptions of elements of school culture; and (c) to discuss the implications of understanding school level learning environments from a school culture perspective and the need to be sensitive to school context factors when measuring teachers' perspectives of school culture.

Methodology

Measures

The measures used in the two studies were revisions and extensions of the original School Culture Elements Questionnaire (SCEQ) developed by Cavanagh (1997) for use in Australian schools. The original SCEQ defined 8 cultural elements that indicated specific descriptors of teacher behaviors or beliefs. The questionnaire included 8 cultural elements each comprised of 8 items for a total of 64 items. The original SCEQ consists of two sections: actual and preferred. The *actual* survey addresses "how I and my school actually are"...and requires participants to respond to statements according to how they see factors, events, and conditions actually occurring in their schools. The *preferred* survey measures teachers' perceptions of how they would prefer things to be in a school in which they "wish" to work, thus detailing their

preferences for characteristics of an ideal school. The response format is a four-point, forced-choice Likert scale (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree). The studies reported here reflect revisions of the original school culture measure {referred to as the Revised School Culture Elements Questionnaire (RSCEQ)}. Revisions to the original SCEQ developed by Cavanagh (1997) extended development of the measure by: (a) editing the original items for use in the USA (e.g., substituting *assistant principal for school deputy*), (b) adding an additional 14 items to the original 64-item instrument, and collecting large sample data in a large urban school district (study one), and (c) using the results of a factor analysis from study one, and an additional, new set of 15 items (n =70) to collect original data for the second study. A list of the 78 items comprising the RSCEQ used for the first study can be found in Appendix A.

Sample and Data Collection Procedures

In the first study, the Revised School Culture Elements Questionnaire (RSCEQ) was administered to 3279 teachers in 80 schools in a large urban school district in the southeastern USA over a two week period in the late fall and early winter of 1997. Schools included 40 pilot and 40 paired elementary, middle and high schools participating in a larger pilot of a new, classroom-based system (the Professional Assessment and Comprehensive Evaluation System-PACES) designed to assess and evaluate teaching and learning (CDE Research Associates, Inc., 1998). The paired schools were reasonably matched with the pilot schools using school level variables such as school level, size, geographical location, socioeconomic characteristics, and standardized student achievement test scores. Data collection packets were provided to each participating school with instructions for teachers to complete the RSCEQ and a demographic information sheet within two weeks. Follow-up contacts with schools were made to increase

return rates. All data were collected voluntarily and the anonymity of respondents was maintained. In the second study, the new 70 item RSCEQ was administered to 1389 teachers in 36 schools in the same large urban school district as study one during the Spring of 1999. Procedures for collecting the survey data were the same in both studies.

Data Analyses

Five kinds of data analyses were completed for the RSCEQ survey results for both studies: 1) descriptive statistical summaries for instrument items and subscales and characteristics of the total sample; 2) a series of exploratory principal components analyses with orthogonal rotations (Varimax procedure) to identify latent constructs measured by the RSCEQ; 3) alpha reliabilities of the factored RSCEQ dimensions to explore internal consistency of the data; 4) replicated orthogonal factor analyses for sub samples of teachers divided by school level (elementary, middle, and high schools); and 5) correlations between identified dimensions of school culture.

Results

Study One (1997)

For study one (1997), complete and useable RSCEQ surveys were received from 861 high, 948 middle, and 1286 elementary school teachers. A series of principal components factor analyses with orthogonal rotations was completed on the teacher responses (**actual perceptions only**) to the survey. The factor analysis results for the total sample (n=3095) supported a five-factor solution accounting for 48.75% of the item variance that best represented the RSCEQ measure. This solution and an accompanying set of decision rules retained 55 of the original 78 items. The basic decision rules for retaining an item on an identified factor were: (a) an item loading (factor/item correlation) of at least .33 (Test 1); and (b) a difference between squared

loadings of at least .10 for items loading on more than one factor (Test 2). Using these decision rules, the five factors identified, number of items retained, percentage of variance explained and Alpha reliability of each factor were as follows: Vision/Leadership (18) (18.38%) (.93); Collegial Teaching and Learning (14) (10.90%) (.89), Professional Commitment, (11) (7.88%) (.87); Openness/ Collaboration (6) (6.38) (.75); and Professional Relations/Interactions (6) (5.21%) (.76).

For the factor analyses of the teacher groups partitioned by school level (elementary, middle, high school), a five-factor structure was generated. The five factors identified in each analysis were rather similar to the five factors identified for the entire sample. However, there were some noticeable differences between solutions for these three groups as well. Table 2 shows the percentage of variance in the solutions explained by each factor for each school level group. The percentages of total variance in the data explained by the complete five-factor solution for each of the three teacher groups (school levels) were: 46.75% (elementary), 43.77% (middle), and 43.17% (high school). Loadings for retained items varied from .33 to .85 across the three groups. In considering results for all three analyses, 70 of 78 items were retained on at least one factor, for at least one of the three groups.

Of particular interest was the finding that SCEQ items comprising the five identified measurement dimensions, while evidencing some degree of overlap, varied considerably when comparing the results for the three groups. For example, the strongest factor for the *high school and middle school groups* was Vision/Leadership, which accounted for 15.73% and 14.41% of the total variance in the solutions. However, the strongest (first) factor for the elementary teacher group was Collegial Teaching and Learning, which accounted for 18.14% of the total item

variance in the solution (see Table 2)

In comparing results for all three levels, 32 of 70 items (46%), retained by the decision rules established, were in common across all three groups. In further highlighting results when comparing the *elementary and high school teacher groups*, 37 of 70 items retained (52.9%) were in common. The number of items in common when comparing the results for middle and high school groups was 46 of 70 (65.7%). In examining results for all five factors for the three groups, the percentage of items in common across all three groups was greatest for the RSCEQ Factor IV (Openness/Collaboration).

In some instances, the results clearly showed that elementary teachers operationalized perceptual dimensions of school culture with different SCEQ items than middle school and high school teachers. For example, the SCEQ Vision/ Leadership factor for elementary teachers accounted for less variance than it did for secondary teachers. More variance was explained by items related to personal commitment and involvement in establishing and accomplishing school outcomes (a collective, shared element of leadership) for elementary school teachers than for secondary school teachers. Elementary teachers were less consistent in their responses to items reflecting administrative leadership (a more traditional bureaucratic view) than were secondary teachers.

Study Two (1999)

For study two (1999), complete and useable RSCEQ surveys were received from 324 high school, 333 middle school and 732 elementary school teachers. A series of principal components factor analyses with orthogonal rotations was completed on the teacher responses to the survey. The factor analysis results for the total sample (n=1389) supported a four-factor solution

accounting for 47.68% of the item variance that best represented the RSCEQ measure. This solution and an accompanying set of decision rules retained 58 of the original 70 items. The basic decision rules for retaining an item on an identified factor were: (a) an item loading (factor/item correlation) of at least .33 (Test 1); and (b) a difference between squared loadings of at least .10 for items loading on more than one factor (Test 2). Using these decision rules four factors were identified. The number of items retained on each factor and the percentage of variance explained by each factor were as follows: Vision/Leadership (28) (19.96%) ; Collegial Teaching and Learning (15) (12.98%), Professional Commitment, (11) (11.45%) ; and Favoritism (4) (3.29). Table 1 shows the item/factor loadings (Pearson product moment correlations) for the four-factor solution using the total teacher sample (n=1389). The item numbers in Table 1 can be cross-referenced for content with the listing of items for the four identified factors included in Appendix B.

Upon inspection of the items comprising the fourth factor (Favoritism), the decision was made to disregard this factor in any further interpretations of the results by school level groups. The content of these items clearly identified a favoritism factor that was conceptually at odds with the larger meaning of school culture in the study (see earlier description of the conceptual framework on page 4). Additionally, in a prior three-factor solution for the total data set, the items comprising the fourth factor (Favoritism) all loaded on a single (third) factor). Thus, the four-factor solution served to clearly separate these four items from their prior association with other items more clearly defining elements of school culture. Conceptual definitions for the first three RSCEQ dimensions are included in Appendix B as well as items operationalizing each dimension identified through the factor analyses in the second study. The alpha reliabilities of

these three RSCEQ measurement dimensions for the total teacher sample (n-1389) were: Vision/Leadership (.97), Collegial Teaching and Learning (.91), Professional Commitment (.88). The correlations between the three RSCEQ identified through the factor analysis procedures were as follows: Vision/Leadership with Collegial Teaching and Learning (r=.73); Vision/Leadership with Professional Commitment (r=.74); Collegial Teaching and Learning with Professional Commitment (r=.78).

For the factor analyses of the teacher groups partitioned by school level (elementary, middle, high school), a four-factor structure was also generated. The four factors identified in each analysis were rather similar to the four factors identified for the entire sample. However, there were some noticeable differences between solutions for these three groups as well. Table 3 shows the percentage of variance in the solutions explained by each factor for each school level group. The percentages of total variance in the data explained by the complete four-factor solution for each of the three teacher groups (school levels) were: 48.73% (elementary), 45.75% (middle), and 44.65% (high school). Loadings for retained items varied from .36 to .83 across the three groups. In considering results for all three analyses, 69 of 70 items were retained on at least one factor, for at least one of the three groups.

In a change from study one, the RSCEQ items comprising the four identified measurement dimensions, showed greater similarity when comparing the results for the three groups to those form the first study. The strongest factor in all groups was Vision/Leadership, which accounted for 19.66% (E.S.), 19.03% (M.S.), and 17.01% (H.S.) of the total variance in the solutions.

In comparing results for all levels, 26 of 58 items (45%), retained by the decision rules established, were in common across all three groups. In further highlighting results when

comparing the *elementary and high school teacher groups*, 35 of 58 items retained (60%) were in common. The number of items in common when comparing the results for middle and high school groups was 31 of 58 (53%%).

Like study one, the results showed that elementary teachers operationalized perceptual dimensions of school culture with different SCEQ items than middle school and high school teachers. Yet, the differences were less in study two. For example, the results of study two showed that more variance was explained through items related to Collegial Teaching and Learning than items related to Professional Commitment; although, the difference was small. On the other hand, secondary teachers had more variance explained on items related to Professional Commitment than Collegial Teaching and Learning; and, the difference between the two factors was much greater than for elementary teachers.

Discussion

The results of these two studies are of interest from a variety of perspectives. First they provide continuing support for the usefulness of the RSCEQ as a measure of multiple dimensions of school culture. Though the results reported here do not exactly mirror those reported by Cavanagh (1997), they do show that multiple dimensions of school culture grounded in norms of professionalism, can be identified and measured with reasonable reliability. It should be recalled however, that an additional set of 14 items was added to the revised version of the original SCEQ (Cavanagh, 1997) that was used in study one. For study two, the RSCEQ was further modified by the elimination of 23 items used in study one and the addition of 15 new items recommended by a panel of teachers reviewing the RSCEQ. From the validity perspective, our interpretation of the results suggests that the RSCEQ measures perceived elements of school culture grounded in

norms reflecting general professionalism among teachers. Of course there are many other frameworks and referents that might be used to conceptualize and measure elements of school culture (e.g, norms, beliefs and values pertaining to student discipline or relationships with the school's external environment). The RSCEQ has been developed to measure dimensions of school culture grounded in norms, beliefs and values reflecting professional behavior of teachers (and administrators) in schools. Our findings differ considerably from the initial, logical content classification, piloting and subsequent factor analyses of the original SCEQ items by Cavanagh (1997). Both of the studies reported here have served to refine the RSCEQ items and to enhance the measurement properties of the RSCEQ as well (e.g., smaller, more cohesive number of subscales accounting for increased amounts of variance in the data and enhanced reliability estimates). The samples used in these two studies are also considerably larger than the initial samples used in the initial SCEQ study by Cavanagh (1977).

Of considerable interest in these studies were findings demonstrating somewhat dissimilar factor structures for the RSCEQ in three different school levels and somewhat different operational definitions of these dimensions within school level contexts (dissimilar item/factor loadings by school level in both study one and study two). Although the results varied somewhat between the two studies, the results support and document the literature that suggests that elementary school cultures and organizational/learning environments are quite different from secondary schools. Though the same general, empirically derived RSCEQ dimensions were identified in the sub-group analyses by school level five in the first study and four in the second study), the item/factor loadings strongly suggest that the definition of these dimensions of school culture take on different meanings through the eyes of teachers depending upon the particular

work context (i.e., school level). Thus, the predominant school culture perceptions as measured by the RSCEQ for secondary (middle and high school) teachers (Vision/Leadership in study one and Vision/Leadership followed by Professional Commitment in study two) are not the same as for elementary teachers (Collegial Teaching and Learning in study one and Vision/Leadership followed by Collegial Teaching and Learning in study two). Thus, elementary teachers' perceptions of school vision and leadership relative to collegiality and professional commitment were more different in study one study than in study two. These results are consistent with prevailing notions that norms of collegiality, autonomy/sharing and bureaucratic structure are rather different when comparing elementary and secondary schools. Teachers' views of how they *actually* see the school culture in this study provide support for these prevailing notions.

The varied results in these studies suggest that the common practice of mixing teachers from various school levels, often as a matter of convenience or necessity in an attempt to develop large sample sizes, may not be a good idea from either traditional methodological or construct validity perspectives. With measures like the School Culture Elements Questionnaire, which tap teacher perceptions emanating from contextual interactions with others in complex organizational and learning environments, context effects are more than likely inevitable. Thus, the way experiences develop and foster ensuing perceptions of factors, events and conditions in the school environment, may well be so contextually imbedded that mixing school levels methodologically masks important context differences in the nature of these constructs. Thus, results derived from mixed contexts may paint a misleading conceptual picture of the constructs and how they vary with differing organizational and learning environment factors. This said, the variability in the nature of these constructs as seen by teachers in different contexts, as shown here, may be an

important element of understanding differences among schools, as well as the manner in which measured variables interact with and are influenced by the contexts in which they develop. One would probably not have these concerns or considerations in measuring more stable human traits such as personality characteristics, cognitive abilities and so on.

From the theory-building, future research and practice perspectives, the results reported here suggest that emerging theories of school culture and culture building, within the larger context of school learning environment research, must take into account many possible differences in school context factors that frame differences in school cultures. Undoubtedly there are a variety of variables mediating differences in teachers' perceptions of actual elements of school culture identified in this study. School size, norms of pupil control, faculty experience and maturity, the nature of students and families served, leadership qualities, and even school and district policies may mediate, as well as frame, teacher's perceptions of elements of school culture. Actual levels of the factors identified in these two studies among teachers might well be expected to vary from one school to the next, and from one school district to the next as each of these mediating factors varies. For example, formal opportunities for collaborative planning and sharing might be hindered or enhanced by district policies (or teacher union contract stipulations) governing the number of teacher planning days, allowable cross-school visitations and so on. Alternatively, teachers in some schools might well develop opportunities for professional sharing, collaboration and collegiality (informal culture building) in spite of policies, rules and regulations that, on the surface, look prohibitive.

The RSCEQ dimensions identified in the second study (Vision/Leadership, Collegial Teaching and Learning, and Professional Commitment) used factor analysis procedures designed

to identify statistically independent factors (orthogonal rotation of the factors to arrive at a final factor structure). However, subsequent correlations between the factors were all positive in direction and rather strong in magnitude (r=.73, .74, .78). These results show that elements of school culture, while capable of being conceptualized and measured independently, tend to go hand in hand in schools. That is, where one dimension of actual school culture is viewed positively by teachers, other dimensions of school culture are also viewed positively by teachers. Thus, the results reported here, particularly those for the second study, suggest that while measurement independence of culture dimensions can be achieved, it is not likely *across schools* that teacher perceptions on some dimensions of school culture will be strongly positive while, at the same time, other perceptions will be strongly negative. No *within school* analyses were completed in the studies reported here. However, he results of syntheses of similar large-scale, school-based studies (e.g., Ellett, et al., 1977) suggest that the rather strong, positive relationships established between the RSCEQ factors might vary considerably from one school to the next using individual teachers within schools as the units of analysis. Indeed, if each school context is different and each school culture somewhat unique, this result might well be predicted.

The studies reported here are also important from more practical and policy-based perspectives. Recent attempts to document and understand historical cycles of school reform (Cuban, 1990) to broaden our understanding of the nature of school change and reform (Fullan, 1993), particularly from teachers' perspectives (Hargreaves, 1994), have identified school culture as an important concern research and school improvement concern. Bringing about meaningful and lasting change in schools is believed to be rooted in professional opportunities for new learning among teachers and others; the kind of learning that forms the basis for the development

of new, deep-seated elements of school culture (Fullan, 1993). If this perspective is accurate, developing measures like the School Culture Elements Questionnaire may be a first step to obtain baseline data on school culture and monitor subsequent changes in school culture, as innovations and reform efforts are developed and implemented in our schools. As well, it might be of considerable value to be able too identify key, changing elements of school culture associated with positive changes in school outcomes as a means of school assessment, professional learning and development among teachers, and ultimately school growth and improvement. This seems a timely perspective given the nationwide movement toward school performance assessment and accountability efforts targeting school change and improvement.

While not discussed in detail in this paper, examination of descriptive statistics in these studies showed considerable differences in SCEQ item and dimension scores, both within and across schools in this sample...even though these schools were from a single, large urban school district. Interestingly, and almost without exception by RSCEQ item or by particular school, teachers' perspectives of preferred elements of school culture were consistently higher than their perceptions of actual elements of school culture. This finding suggests that considerable cultural deprivation relative to a culture of professionalism may exist in most school's given teachers' views of what ideal school culture should be. If this is the case, then strengthening school culture on dimensions of professionalism may well be a priority for school change and improvement efforts. Future research on school culture, and attendant theory building as well, will need to continue to explore, accommodate and explain observations of within and between school differences in teacher perceptions of school culture. Given the complexity of factors framing school culture (the sense of *who we are and what we do around here*), mixed methodologies

(quantitative/qualitative) and statistical analysis models that accommodate multiple units of analysis and multiple sources of variation (e.g. hierarchical linear modeling) seem needed to sort out these complexities and to develop comprehensive theories of school culture. Recent syntheses of findings from a variety of large-scale studies of school environment and organizational characteristics and school effectiveness lead to the same conclusion (Ellett, et al., 1997). This is no easy task, but it is consistent with recent calls to change the context of research on school learning environments to accommodate the importance of (and considerable variations in) school culture, and culture-building to bring about meaningful school change (Dellar, Cavanagh, & Ellett, 1998). This same view has recently been put forth as well in the study of leadership, organizational culture building, and change in non-school settings (Bryman, 1996). Future studies of this kind within the lines of inquiry reported here are currently being planned. Such studies can yield important information for advancing educational measurement, theory building, policy making, and developing school cultures and educational practices to improve schools.

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Table 1

Summary of Item/Factor Loadings for the Four-Factor Principal Components Analysis (Study Two, 1999) for the RSCEQ for the Total Sample of 1389 Teachers

	RSCEQ Factors			
RSCEQ Item #	I	II	III	IV
1.				.40
2.	.66			
3.	.55			
4.			.56	
5.	.56			
6.	.63			
7.			.63	
8.		.52		
9.	.64			
10.	—a	—	—	—
11.			.56	
12.	—	—	—	—
13.	—	—	—	—
14.			.61	
15.			.62	
16.				.66
17.			.63	
18.		.36		
19.	.66			
20.		.48		
21.	.61			
22.	.56			
23.				.71
24.		.56		
25.	.52			
26.		.50		
27.	.70			
28.			.49	
29.	.73			
30.			.43	
31.	—	—	—	—
32.	.62			
33.	.63			

Table 1 (Cont.)

Table 1 (Cont.)

RSCEQ Item #	I	II	III	IV
34.	.70			
35.			.48	
36.	—	—	—	—
37.				.50
38.			.58	
39.	.61			
40.		.54		
41.		.59		
42.	—	—	—	—
43	.70			
44.	.69			
45.	.59			
46.	.56			
47.		.64		
48.		.40		
49.	.49			
50.	.58			
51.	—	—	—	—
52.	.57			
53.	.55			
54.	—	—	—	—
55.		.67		
56.	—	—	—	—
57.	.68			
58.		.64		
59.		.73		
60.	—	—	—	—
61.	.59			
62.	.71			
63.		.63		
64.	—	—	—	—
65.	.57			
66.	.66			
67.		.65		
68.	—	—	—	—
69.				.65
70.		.51		

a = item failed to meet decision rules established for retaining items on a factors

Table 2

Variance Explained By Each Factor in Each Group in Study One (1997)

Level	Vision/ Leadership	Collegial Teaching	Prof. Commitment	Openness Collaboration	Prof. Relations
Primary*	9.86%**	18.14%**	8.01%	6.08%	4.66%
Middle	14.41%	10.45%	6.23%***	7.12%	5.56%
Secondary	15.73%	10.60%	6.91%	6.12%	3.81%

* The scores for the primary level include a total of 78 items, one item was eliminated for the Middle and secondary scores.
**Factor Two at the Primary Level had the largest percentage of commonality with Factor One from the Middle and Secondary Level, thus it was placed in the first column of the table in order to allow for the Factor 1 column to indicate variance among common items.
***Factor Four at the Middle Level had the largest percentage of commonality with Factor Three from the Primary and Secondary Level, thus it was placed in the third column of the table in order to all for the Factor 3 column to indicated variance among common items.

Table 3

Variance Explained By Each Factor in Each Group in Study 2

Level	Vision/ Leadership	Collegial Teaching	Professional Commitment	Favoritism
Primary	19.66%	13.31%	11.71%	4.05%
Middle	19.03%	10.60%*	12.04%*	4.08%
High School	17.01%	9.09%*	15.17%*	3.38%

*Factor Two at the Middle and High School Level had the largest percentage of commonality with Factor Three from the Primary Level, thus it was placed in the first column of the table in order to allow for the Factor 1 column to indicate variance among items consistent with the operational definition of each factor.

APPENDIX A

Revised School Elements Questionnaire (RSCEQ) Items for Study One (1997)

1. I am proud to be an educator.
2. I spend time in personal reflection about my work.
3. I accept the need for support from colleagues.
4. I always provide encouragement for colleagues who are studying or involved in professional development.
5. Participation in meetings is always high.
6. I have a personal vision of how I would like the school to be.
7. State Department of Education priorities are incorporated into school priorities.
8. The administrators are the most influential members of the staff.
9. Students are provided with the skills needed for future educational or vocational experiences.
10. The findings of educational research have influenced my teaching.
11. Teachers have an understanding of how to support each other.
12. I am unsure of how strongly I should express my own opinions with colleagues.
13. Items for discussion at meetings always come from the same people.
14. We talk among ourselves about the future direction of the school.
15. The professional staff in the school has identified a set of priorities for future development.
16. The school administration ensures the cooperation of teachers.
17. Developing the social skills of students is important.
18. The professional growth of teachers improves the school.
19. Teachers make an effort to maintain positive relationships with colleagues.
20. I always praise colleagues who have done something special at school.
21. There is little debate in meetings.
22. Expressions of the school's future vision reflect staff consensus.
23. We have identified ways of determining if school priorities are achieved.
24. The school administration encourages others to take control of new projects.
25. Educational programs contribute to improving the quality of life in our school.
26. Teachers learn from each other.
27. Teachers have respect for the personal qualities of colleagues.
28. My professional decisions are usually supported by colleagues.
29. We work together to implement the decisions of meetings.
30. We have developed a common vision for the school's future.
31. We gather data for gauging the success of school programs.
32. The school administration does encourage the professional growth of teachers.
33. The creative potential of students is realized.
34. I am receptive to advice from colleagues about my teaching.
35. We are willing to help each other when problems arise.
36. We always encourage each other to exercise our professional judgement.
37. We frequently discuss what should be taught in particular curricular or courses.
38. I have a clear understanding of how I can contribute to realizing the future vision of the school.
39. We always evaluate the success of existing school programs.

40. Members of the schools administration show a genuine concern for me as a person.
41. Individual differences between students are addressed.
42. Classroom experience has improved my understanding of student learning.
43. Teachers are reluctant to share problems with each other.
44. We encourage each other to take responsibility for new projects.
45. Teaching methods and strategies are discussed sufficiently.
46. I work toward achieving the school vision.
47. We have recognized procedures for deciding upon new projects.
48. The school administration gives teachers sufficient "space" to get on with their work.
49. We believe that every child can learn.
50. I still find new ways to improve my teaching.
51. The cohesion of the staff (teacher) team is of importance to teachers.
52. I do trust my own judgement to make decisions that may have consequences for colleagues.
53. We often compare how we assess student achievement.
54. Teachers are unified in working toward the school's future vision.
55. Teachers have implemented school priorities.
56. Members of the administration generate a personal commitment from teachers that ensures the success of innovations.
57. Improvements in student achievement are rewarded.
58. Changes in society have changed my teaching.
59. Teachers value the development of friendships between colleagues.
60. I do expect colleagues to acknowledge my efforts and endeavors.
61. Student behavior management strategies are discussed sufficiently.
62. The appropriateness of current expressions of visions for the school's future is questioned.
63. The progress of innovations is subject to careful scrutiny.
64. The persistence of successful innovations is assisted by visible ongoing support from the administration.
65. I feel comfortable in providing suggestions to other staff about improving instruction.
66. The professional staff respects my ideas and perspectives about instruction.
67. Teachers hold high expectations for student learning.
68. I primarily use planning time for instructionally-related matters.
69. Teachers spend time together informally discussing plans for school improvement.
70. Teachers spend time mentoring beginning teachers.
71. There are formal opportunities to work/plan collaboratively with other teachers.
72. Teachers frequently communicate with one another about teaching and learning.
73. The professional staff participates in inservice meetings in which teachers are involved in planning or serve as presenters.
74. Teachers suggest ideas and topics for inservices that address professional needs.
75. Administrators and teachers cooperatively participate in developing school policies.
76. The administration challenges teachers to continuously assess their views of effective teaching and learning.
77. We do not talk among ourselves about the future direction of the school.
78. Teachers do not learn from each other.

APPENDIX B

Conceptual Definitions and Items Operationalizing Each RSCEQ Dimension from Factor Analyses Completed in Study Two (1999)

Vision/Leadership

Teachers' perceptions of personal and collective decisions about what the school ought to do, the involvement and level of administrative decision making and support, and how the school has succeeded with past goals and projects. These perceptions include commonly held professional beliefs, values and expectations of both teachers and school administrators in contemplating success for the school's future; with focus on direction of the school, staff, students and entire school community.

2. Administrators are willing to help teachers when problems arise.
3. Expressions of the school's vision reflect staff consensus.
5. We have identified ways to determine if school priorities have been achieved.
6. Leadership roles are equally shared by teachers and administrators.
9. Procedures for deciding upon new school projects are clearly established and understood.
19. The school administration encourages teachers and others to provide leadership for new school projects.
21. The progress of new programs and ideas is carefully monitored.
22. We evaluate and discuss the success and/or failure of existing school programs.
25. Meetings of professional staff are well attended with active participation.
27. Administrators work to ensure the cooperation of teachers.
29. Administrators provide the visible, ongoing support for new school programs and ideas.
32. Encouragement is provided for teachers who are fathering their studies or are involved in professional development activities.
33. Teachers openly share problems with administrators.
34. Administrators visibly encourage teachers to be the best that they can be in the classroom.
39. Administrators challenge teachers to continuously assess their views of effective teaching and learning.
43. Teachers and administrators work cooperatively to develop new school programs and policies.
44. Administrators work to establish personal commitments from teachers to accomplish school goals.
45. A vision for the school's future is clearly understood by all.
46. Student learning is given priority over all other school goals.
49. Teachers are unified in their commitments to accomplish the school's vision.
50. The administration gives teachers sufficient professional autonomy to do their work.
52. Information is systematically collected to evaluate the success of school programs.
53. Teachers work together to implement decisions made at school meetings.
57. Members of the administration show a genuine concern for me as a person.

61. There is a clear understanding of resources and support staff available to assist teachers.
62. Administrators are sympathetic with work-related problems and difficulties encountered by teachers.
65. Cohesion and consensus among teachers are valued and encouraged.
66. Teachers receive the assistance they need for administrators and colleagues to enhance the quality of teaching and learning in their classrooms.

Collegial Teaching and Learning

Teachers' perceptions of elements of culture that reflect relationships among teachers that focus on their personal and collective teaching and learning activities and learning of students. Emphasis is on teachers as learners and the school as a learning community, teachers commitment to their own learning and responsiveness to changes in society, technology, new teaching strategies, and educational research.

8. Teachers have an understanding of how to support each other.
18. I am receptive to advice from my colleagues about my teaching.
20. Teachers frequently communicate with each other about the quality of teaching and learning.
24. Teachers make an effort to maintain positive relationships with colleagues.
26. Teachers recognize and praise colleagues who have done something special at the school or who have received awards.
40. Teachers feel comfortable providing suggestions to colleagues about ways to improve teaching and learning in their classrooms.
41. Colleagues personally acknowledge my efforts and endeavors.
47. Teachers learn from one another.
48. Teachers trust their own judgments to make decisions that have important consequences for students.
55. Teachers share classroom experiences with each other to improve their understanding of student learning.
58. Teachers encourage each other to use professional judgment when making decisions.
59. Teachers are willing to help each other when problems arise.
63. Teachers accept the need for support from their colleagues.
67. Teachers openly share problems with each other.
70. Teachers spend time together informally discussing ways to improve the school.

Professional Commitment

Teachers' perceptions of their work to accomplish goals and objectives defined by the school; teachers' belief in the importance of educating students and targeting success for all students; commitment to improving the quality of education and recognizing the role of education in advancing society.

1. Teachers in this school are proud to be educators.
4. Teachers spend time in professional reflection about their work.
7. Teachers give priority to helping their student develop higher order thinking skills.
11. Teachers adjust their teaching to reflect changes in the larger society.

14. Teachers are committed to professional growth to improve teaching and learning.
15. Teachers believe that all students can learn.
17. Teachers incorporate the findings of educational research into their own teaching and learning practices.
28. Teachers use planning time for instructional matters.
30. Teachers participate in collaborative lesson planning activities.
35. Teachers work collaboratively to develop professional growth plans.
38. Teachers adequately plan teaching and learning activities to accommodate individual differences among students.

Favoritism

Teachers' perceptions of the extent to which others (teachers) are unduly valued by the administration regarding their input and leadership in school matters that distort professional communications.

16. Some teachers are valued more by administrators than other teachers.
23. The same teachers are usually assigned leadership roles for carrying out school programs and activities.
37. I am unsure of how strongly I should express my opinions to colleagues.
68. Items for discussion at meetings tend to come from the same people.